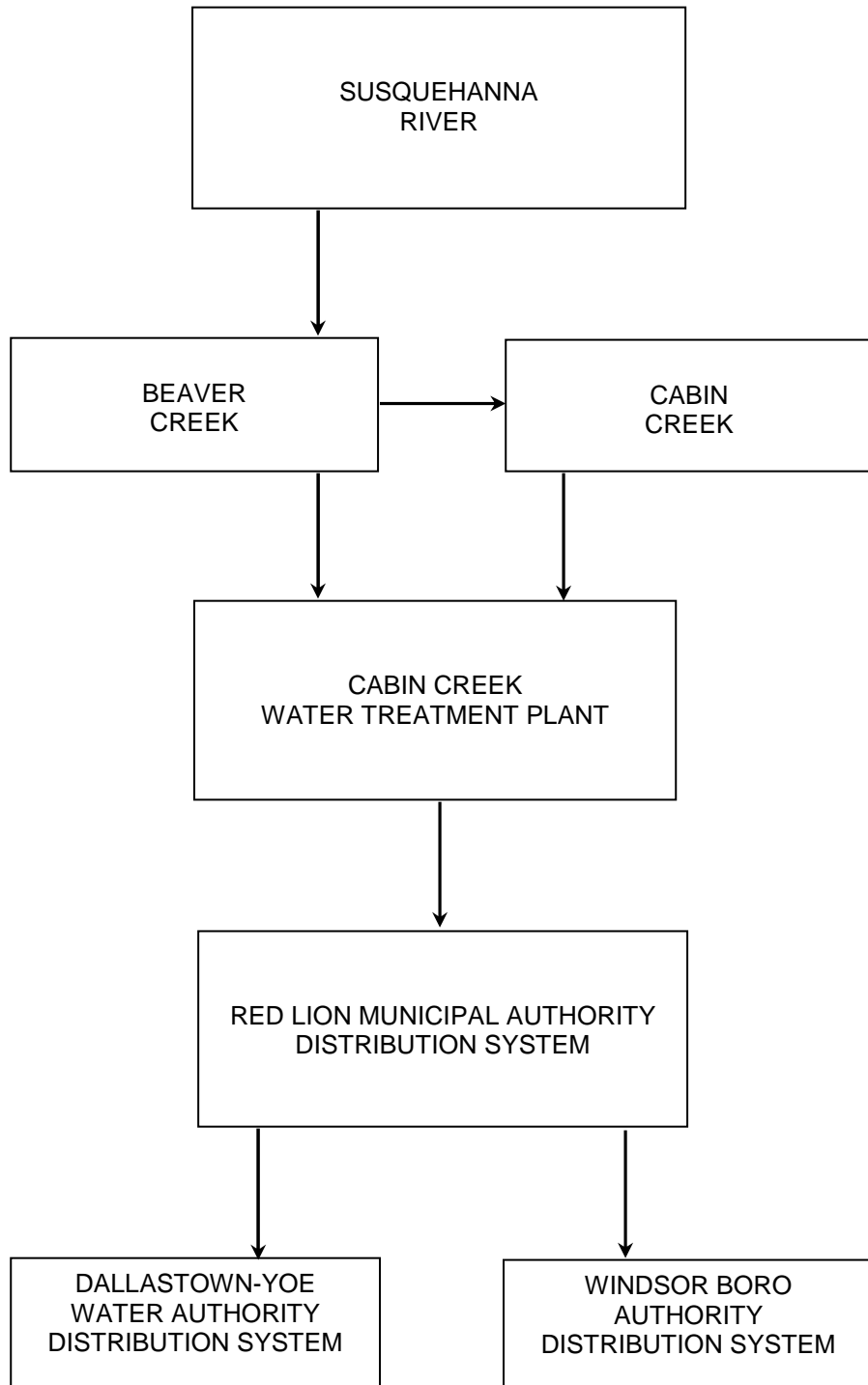


# WATER SUPPLY FLOW CHART



The purpose of this report is to inform you of the quality of the drinking water produced and delivered to each of our consumers. It is our intent to give you a better understanding of the quality of water and services provided to you. We strive to deliver a dependable, safe supply of drinking water through our efforts of continually improving our treatment process and distribution systems. The Red Lion Municipal Authority Water System, through bulk water sales agreements, provides all the drinking water to the Windsor Borough Authority. This report is inclusive of the **Windsor Borough Authority**, as well as, the **Red Lion Municipal Authority** Water Systems.

**“ESTE INFORME CONTIENE INFORMACION MUY IMPORTANTE.  
TRADUZCALOO HABLE CON ALGUIN QUE LO ENTIENDA BIEN.”**

## **WATER SOURCES**

The **Red Lion Municipal Authority** utilizes surface water as our source of raw water supply. The **Authority** owns and operates two impounding dams, one on Cabin Creek in Windsor Township and the other on Beaver Creek in Chanceford and Lower Windsor Townships. We also have a raw water pumping station at the confluence of Greenbranch Stream and the Susquehanna River in Chanceford Township.

Under normal conditions, the primary source of raw water is Cabin Creek. Under high demand conditions a combination of Cabin Creek and Beaver Creek is utilized and, under drought conditions it may become necessary to draw water from all three sources.

A Source Water Assessment of our sources was completed in 2002 by the PA Department of Environmental Protection (PADEP). The Assessment has found that our sources are potentially most susceptible to accidental spills along roads, leaks in underground storage tanks, urban storm water runoff and agricultural activities. Overall, our sources have little to moderate risk of significant contamination. Summary reports of the Assessment are available by writing Red Lion Municipal Authority, P.O. Box 190, Red Lion, PA 17356 and will be available on the PADEP Web site at [www.depweb.state.pa.us](http://www.depweb.state.pa.us) (Keyword: “source water”). Complete reports were distributed to municipalities, water suppliers, local planning agencies and PADEP offices. Copies of the complete report are available for review at PADEP Southcentral Regional Office, Records Management Unit at (717) 705-4708.

## **We All Live Downstream**

### **Four Things You Can Do Today to Protect Our Drinking Water**

The Red Lion Municipal Authority has completed the project of developing a comprehensive Source Water Protection Plan to protect the high quality drinking water we supply to our customers. The Source Water Protection Plan was submitted to PADEP in April, 2008 and received DEP approval in May, 2008. Copies of the plan are available for review at the following locations: Red Lion Municipal Offices, Kaltreider-Benfer Library (in Red Lion), York County Planning Commission, York County Conservation District, Municipal Offices of Windsor Township, Lower Windsor Township and Chanceford Township, Collinsville Library, Windsor Borough and Dallastown-Yoe Water Authority Offices.

The plan focuses on protecting the Cabin Creek and Beaver Creek watersheds as well as the Susquehanna River from potential sources of pollution such as excess sediments and harmful chemicals through public education, physical protection and emergency response procedures.

It is important that we all understand that things we do everyday have the potential to affect the quality of our or someone else's drinking water, even if we do not live directly within the Cabin Creek and Beaver Creek watersheds. What you allow to run down the street into a storm drain or flush down the toilet one day has the potential to show up in someone's drinking water a few days later.

With this in mind, here are four things you can do today to help protect everyone's drinking water:

1. Properly dispose of unwanted chemicals and medicines. Unwanted chemicals should never be flushed down a toilet or dumped down a storm drain. Instead, please take unwanted chemicals to a community hazardous waste program. Unwanted or expired medicines should be placed in the trash.
2. Use lawn care products according to the directions on the package. Lawn and garden herbicides, pesticides and fertilizers are safe and effective when applied according to the directions on the package. In particular, never apply these chemicals when rain is in the immediate weather forecast.
3. Wash your car responsibly. Washing your car on a grassy area instead of the driveway or the street minimizes the amount of dirty water that flows down the storm drain and from there to the nearest stream. Washing your car only when it is really dirty conserves water, minimizes runoff and saves you money.
4. Learn more about watershed protection and get personally involved. You can learn more about watershed protection and Source Water Protection Planning by checking PA DEP's website at <http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm> and US EPA's website at <http://www.epa.gov/ebtpages/watedrinkiprotection.html> . We also invite you to get more involved with the development of the Red Lion Source Water Protection Plan by calling Phil Ropp at (717)244-3475.

Thank you for caring about your drinking water.

The Red Lion Area Source Water Protection Plan will be a comprehensive program to protect and improve the quality of the water in the watersheds that supply water to the Red Lion System. Components of the plan will include public education, emergency management, identification of sources of pollution, municipal cooperation and security upgrades to the water treatment system.

In 1988, a new treatment plant was constructed at Cabin Creek, replacing the 1925 plant at the same location. All raw water passes through the treatment plant for purification. The treatment process consists of aeration, oxidation, coagulation, clarification, filtration, corrosion control, disinfection and fluoridation. Upon completion of the treatment process, the purified water is pumped into the distribution system.

The Red Lion Municipal Authority supplies water to Red Lion Borough, portions of Chanceford Township, Windsor Township and York Township. In addition to the Red Lion

Water System, Red Lion Municipal Authority provides all the water to Windsor Borough Authority, and Dallastown-Yoe Water Authority. Windsor Borough Authority owns and operates a distribution system, which serves Windsor Borough. The Dallastown-Yoe Water Authority owns and operates a water distribution system, which serves Dallastown Borough, Yoe Borough and portions of York Township.

It is our constant goal to provide you with safe drinking water. We routinely monitor for contaminants in your drinking water according to federal and state laws and for the period of January 1, 2008 to December 31, 2008 water supplied from the Red Lion Municipal Authority and Windsor Borough water systems met or exceeded all federal and state requirements for safe drinking water.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

**Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

**Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

**Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Following is information regarding contaminants that may have been detected in the drinking water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hot Line (800-426-4791)**.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the **Safe Drinking Water Hot Line (800-426-4791)**.

The following pages contain tables indicating detected levels of contaminants found in drinking water from the Red Lion and Windsor Systems, and unless otherwise noted, the data presented is from testing done January 1, 2008 – December 31, 2008.

As indicated in the tables, the Red Lion and Windsor Borough water systems were below the Action Level for lead and copper content. Although, corrosion control treatment to prevent lead in drinking water continues, the following information is being provided.

### **LEAD**

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the **Safe Drinking Water Hotline (800-426-4791)**.

### **NITRATE**

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Below is an explanation of abbreviations found in the tables.

### **KEY**

AL	=	Action Level (The concentration of a contaminant which, if exceeded, triggers treatment techniques or requirements the water system must follow.)
MCL	=	Maximum Contaminate Level (The maximum level of a contaminate that is allowed in drinking water.)
MCLG	=	Maximum Contaminate Level Goal (The level of contaminate in drinking water below which there is no known health risk.)
MRDL	=	Maximum Residual Disinfection Level
MRDLG	=	Maximum Residual Disinfection Level Goal
NTU	=	Nephelometric Turbidity Units (A measure of the clarity of water)
ppm	=	parts per million or milligrams per liter (mg/L) (A measurement used for the determination of the concentration of many constituents found in water. One Part Per Million would be equal to one pound in 119,904 gallons of water.)

ppb = parts per billion or micrograms per liter (ug/L) (Same as above except smaller. 1 part per billion is equal to one pound in 119,904,077 gallons of water.)

TT = Treatment Technique (A treatment process that is designed to reduce the level of a contaminate in drinking water.)

CFU = Colony Forming Units (A means of determining the number of colonies within a sample)

pCi/l = picocuries per liter (A measure of radioactivity)

PWSID = Public Water Supply Identification Number

**RED LION MUNICIPAL AUTHORITY = 7670086**

**RED LION WATER SYSTEM**

**MICROBIOLOGICAL ANALYSIS RESULTS**

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform and Bacteria	No	0	Positive Samples	0	> 1 Positive Sample Per Month	Naturally Present in the Environment
Fecal Coliform and E. Coli	No	0	Positive Samples	0	0 Positive Samples Per Month	Naturally Present in the Environment

**CABIN CREEK WATER TREATMENT PLANT PERFORMANCE**

Contaminant	Violation Y/N	Level Detected	Unit Measurement	Sample Date	MCL	Likely Source of Contamination
Turbidity	No	0.50	NTU	10/26/08	TT=1 NTU for a single measurement	Soil Runoff
		99.5%			TT= at least 95% of monthly sample <0.3 NTU	

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCL or TT	Likely Source of Contamination
Total Organic Carbon (TOC)	No	41% - 100% Removal	% Removal	TT	Naturally Present in the Environment

**RADIONUCLIDES “2003 Monitoring”**

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Gross Alpha	No	0	PCi/L	0	15 pCi/L	Naturally Present in the Environment
Combined Radium 226 + 228	No	0	PCi/L	0	5 pCi/L	Naturally Present in the Environment
Uranium	No	0	PPM	0	0.030 PPM	Naturally Present in the Environment

## RED LION WATER SYSTEM

### INORGANIC CONTAMINANTS

Contaminant	Violation of TT Y/N	Level Detected	90 <sup>th</sup> Percentile Value	# of Sites Above AL of Total Sites	Units	MCLG	Action Level	Likely Source of Contamination
Copper From 2007 Monitoring	No	0.13	0.12	0 out of 32	PPM	1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead From 2007 Monitoring	No	520	4.0	1 out of 32	PPB	0	15	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Sample Date	Units	MCLG	MCL	Likely Source of Contamination
Fluoride	No	1.11	.77 – 1.11	2/23/08	PPM	4	2*	Water additive which promotes strong teeth
Nitrate (as Nitrogen)	No	4.66	3.94-4.66	5/14/08	PPM	10	10	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
Nitrite (as Nitrogen) From 2004 Monitoring	No	0.0	0		PPM	1	1	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits

### VOLATILE ORGANIC CONTAMINANTS

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Trihalomethanes	No	0.00001	PPM	0	0.08	By-product of drinking water chlorination
Haloacetic Acids	No	0.0009	PPM	0	0.06	By-product of drinking water chlorination

### DISINFECTION RESIDUAL

Contaminant	Violation Yes/No	Level Detected	Range	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chloramines	No	3.20	0.16 – 3.20	PPM	4	4	Water Additive used to control Microbes

## **VIOLATIONS**

Safe Drinking Water Act Violations were issued to the Red Lion Municipal Authority for failure to obtain an amended construction permit to modify a permitted public water system and for operating a modified public water system without obtaining an amended operation permit. The Authority has since ceased the operation of the modified system and is pursuing optional procedures.

### **RED LION MUNICIPAL AUTHORITY**

The Red Lion Municipal Authority consists of five members and a manager/superintendent. Regularly scheduled meetings are held the fourth Wednesday of each month at 7:00 P.M., in the Smith-Warner Meeting Room of the Red Lion Municipal Office Building, Center Square, 11 E. Broadway, Red Lion, PA, telephone (717) 244-3475.

#### **AUTHORITY MEMBERS**

Eric A. Immel- Vice-Chairman  
Carroll L. Missimer, III – Vice-Chairman  
Henry P. Herrman - Secretary  
Clair E. Paules - Treasurer  
Michael C. Poff - Asst. Secretary/Treasurer

J. Philip Ropp – Manager/Superintendent

Questions about this report or concerning your water utility for Red Lion Municipal Authority should be directed to Phil Ropp at (717) 244-3475, Extension #235.

**WINDSOR BOROUGH AUTHORITY = 7670065**

**WINDSOR WATER SYSTEM**

**MICROBIOLOGICAL ANALYSIS RESULTS**

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform and Bacteria	No	0	Positive Samples	0	0 Positive Sample Per Month	Naturally Present in the Environment
Fecal Coliform and E. Coli	No	0	Positive Samples	0	0 Positive Samples Per Month	Naturally Present in the Environment

**INORGANIC CONTAMINANTS**

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Copper From 2007 Monitoring	No	0.06	PPM	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead From 2007 Monitoring	No	2.0	PPB	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits

**VOLATILE ORGANIC CONTAMINANTS**

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Trihalomethanes	No	0.0000	PPM	0	0.08	By-product of drinking water chlorination
Haloacetic Acids	No	0.0016	PPM	0	0.06	By-product of drinking water chlorination

**DISINFECTION RESIDUAL**

Contaminant	Violation Yes/No	Level Detected	Range	Unit Measurement	MRDLG	MRDL	Likely Source of Contamination
Chloramines	No	0.86	0.16 – 0.86	PPM	4	4	Water Additive used to control Microbes

## **VIOLATIONS**

Total Coliform Reporting Violation – Samples taken for the month of January, 2008 were negative and no threat to the public water supply. However, the laboratory failed to report the results to the Department of Environmental Protection by the due date.

A new interconnection between the Red Lion Municipal Authority's water system and the Windsor Borough Authority's water system on School House Lane. This connection was installed prior to the receipt of a Department of Environmental Protection permit. The permit was received at a later date.

## **WINDSOR BOROUGH AUTHORITY**

The Windsor Borough Authority consists of five members and an operator. Regularly scheduled meetings are held the third Monday of each month at 7:00 P.M., in the Windsor Borough Municipal Office Building, 2 East Main Street, Windsor, PA, telephone (717) 244-6615.

### **AUTHORITY MEMBERS**

Flim D. Warner- Chairman  
Stephen K. Klotz - Vice-Chairman  
Max L. Kopp, Jr. – Treasurer  
Joseph D. Warner - Secretary  
Lynette M. Conway – Asst. Secretary/Treasurer

Stephen W. Carr – Water System Operator

If you have any questions about this report or concerning your water utility, for Windsor Borough, please contact Stephen Carr by calling (717) 244-6615. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regular scheduled meetings.